

578-21
Mrs H. G. Dyer

In Account With

BARTON & WILLIAMS,

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Flour, Provisions, &c.,

East Market Street,

RHINEBECK, N. Y.

511 = 403

511.

Cerua var of cinerea or
modesta on narrow leaved
willow, Plattsmouth, Mo.
Sept 17 1894

Stage IV. ~~hd~~ blackish greenish
with pale dots, mouth
area behind eyes pale
2 horns on 2 spinose, a slight
elevation on 3 post, setae long
distinct, black tars spinose
D. band dark purple, scarcely
horn, narrow to hump 5,



widens, slight irregular on 7
to apical on 8, narrow very
regularly to incision 11-12
and widens slightly on

SCIENCE (WEEKLY.)
TWELFTH YEAR.

N. D. C. HODGES,

874 BROADWAY,

In reply to yours of the

New York, 1894.

MR.

DEAR SIR:—

After various negotiations with a view to the revival of SCIENCE, the publication of which was stopped on March 23d, on account of the difficulty in making collections, a plan of co-operation with the American Association for the Advancement of Science was arranged at its recent meeting, by which the Association grants an annual subsidy to the Journal, as do its founders, Prof. A. GRAHAM BELL and the Hon. GARDINER G. HUBBARD.

To co-operate with the editor and publisher in carrying out the provisions of the agreement, the American Association appointed an Executive Committee, consisting of Prof. W. J. MCGEE, Chairman, Washington, D. C.; Prof. FRANKLIN W. HOOPER, Brooklyn, N. Y.; Prof. R. S. WOODWARD, New York; and, *ex-officio*, Dr. DANIEL G. BRINTON, Philadelphia, President of the Association; and Prof. FREDERIC W. PUTNAM, Cambridge, Mass., the Permanent Secretary. Also ten Associate Editors were designated, corresponding to the ten departments of Science recognized in the organization of the Association.

The carrying out of the plan depends primarily on the number of old subscribers who can be held and new ones secured; and the main purpose of this letter is to ascertain how large receipts may be counted upon from this source. If you are already a subscriber, the Journal would of course be sent for the balance of your term. There are a few of our readers who are able and willing to subscribe more than the regular yearly price (\$3.50), sending ten, fifteen, twenty-five and even fifty dollars. Twenty-five dollars is a favorite amount. For these larger amounts copies have been mailed in some cases to beneficiaries designated by the subscribers and in others no such equivalent was desired. I do not hesitate to suggest such subscriptions, partly because I have unfortunately done my share in maintaining SCIENCE, and partly because any surplus that may accrue in the future will go toward paying back the subsidy from the American Association for the Advancement of Science. But I earnestly hope no one, in a moment of enthusiasm, will subscribe an amount which he may find it inconvenient to remit later.

In case a sufficient number of subscribers respond favorably to make it certain that SCIENCE will start with as large a subscription list as it possessed when publication was suspended, the additional financial support offered by the American Association for the Advancement of Science and its founders will place the Journal on a good financial basis; and the co-operation of the American Association, by which ten associate editors are provided and the proceedings of the Association and its several sections are to be more or less completely published in the Journal, will assure a larger sphere of usefulness for SCIENCE.

Yours very truly,

N. D. C. HODGES.

54.

Cerua var of cinerea or
modesta on narrow leaved
willow Plattburgh N.Y.
Sept 17 1894

Stage IV. Hd blackish purple
with pale dots, mouth
one behind eyes pale
2nd horn on 2 spinose, a slight
elevation on 3 post, setae long
distinct, black, tail spinose
D. band dark purple, scarcely
horn, narrow to hump 5,



wider, slight irregular on 7
to space on 8, narrow very
regularly to incision 11-12
and wider slightly on

12-13, giving appearance of
3 patches, the 3rd on 12-13
obscurely noticeable
Sides green dotted white
purple; pinkish white
Sd shading 7-9. D
band edged with yellow
(diet full of flies)

se

511 = 403

Little hibernating Parorgyia cinnamomea?
 from Mr. Doel, Oct 1, 1894. Black; hair
 thick, light brown, absent around the
 faint sordid reddish ret. tubercles.
 Short black pencils on 2 and square
 black tufts on 5 & 12, partly black
 on 6, on 7 & 8 slightly feathered and a
 little more whitish than the other
 hairs. Unusually small, only $4\frac{1}{2}$ mm
 long. Width hd .8 mm. shiny black
 clasper of abd feet pale but venter black
 In some parts quite red. Hair all hirsute

This is lobeliae Guenee

513

Sept 14

Gray on bark of white oak. Looks exactly like a Tolyte or Spateodes angelica but has warts of an Acronycta-noctuid and no lappets. Head large, scarcely bilobed, shagreened, black above, a broad shaded grayish white band runs transversely, festooned up over clypeus. Gray, mouth black, a few white hairs. W. $5.5 \pm$ mm. Body a little flattened, at least appearing so, slaty gray, a grayish white d. & sd line and diffuse super & substig patches. Warts small, several haired, hair short, black i-iii, white longer and more abundant iv-vi; iv small, ii ii in a square on 12. Dorsum thickly covered with 2^d black points; laterally small 2^d white hair begin and become abundant and long s.v. Sprinkles black, a yellowish diffuse

Oct-May 7 1897 cat no 12724

patch between i & ii and around iii. Feet normal, 12 very slightly enlarged d. a few long black hairs at extremities. Warts slightly shaded with blackish.

513A On white oak Burkhaven L.I. Stage not desc.

Shed Sept 18 Hd 2.2 bilobed, cranium above apex of lobes red, ground white thickly mottled with black patches, Body ^{black dots} gray, a whitish d. & sd line i-iii white with black hairs (2 or 3); iv very small v-vi with abundant soft white hairs. A tiny black dot before i. & reddish shade between i & ii.

Head too large. 12 enlarged ii ii in a square.

Shed Sept 25 Hd 3.5 same, patches on Hd of dots. top of lobes red. Gray, very faint grayish white d. & sd line. Hair fine small nearly conical. Warts i-iii few black, iv obscure, abundant white s-v mouth 2^d. Skin above with fine black points. Gray, yellow small spot between i & ii on 5-11. Sprinkles black ringed. Later long blue gray & a yellowish diamond patch 5-12 above on 5 & 12 blackish shaded - this first before molt.

Shed Oct 1 Hd 4.4 as before exactly

Shed Oct 11 Hd 5.7 Same Hd pale gray with angular spot. Warts blackish gray, d. & sd line in a band above base of s. Top of lobes dark black red. in 5 spot. Body as before. Same till Oct 22 when it suddenly thinned like 513 to J. Superstij patches

514

Larva of *Phryganidia californici* from
J. G. O. Mueller, San Francisco, Cal.



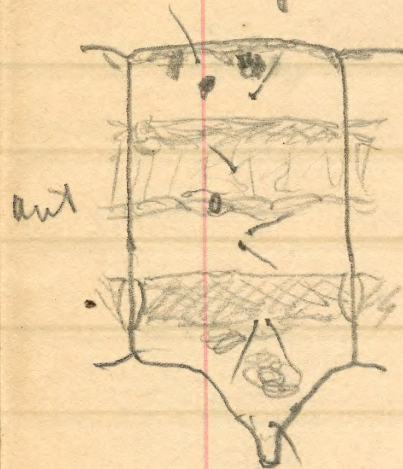
Setae very small and
inconspicuous (Here shown
large to give position
and relative size.)

Larvae very noctuidiform,
joint 12 enlarged and
13 small; anal feet
slender, divergent and

look weaker than the others. (See detail)

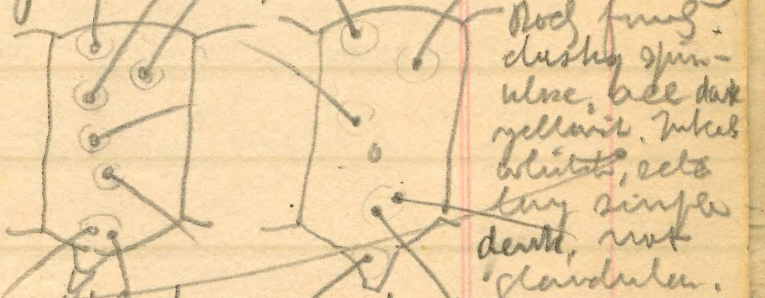
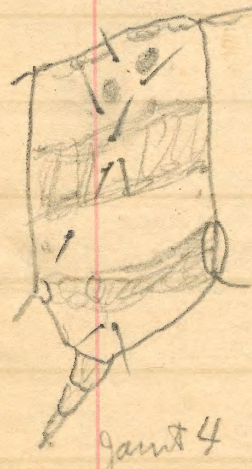
515

Heterogynis paradoxa, blow larva from
Standinger. Feet with single, well



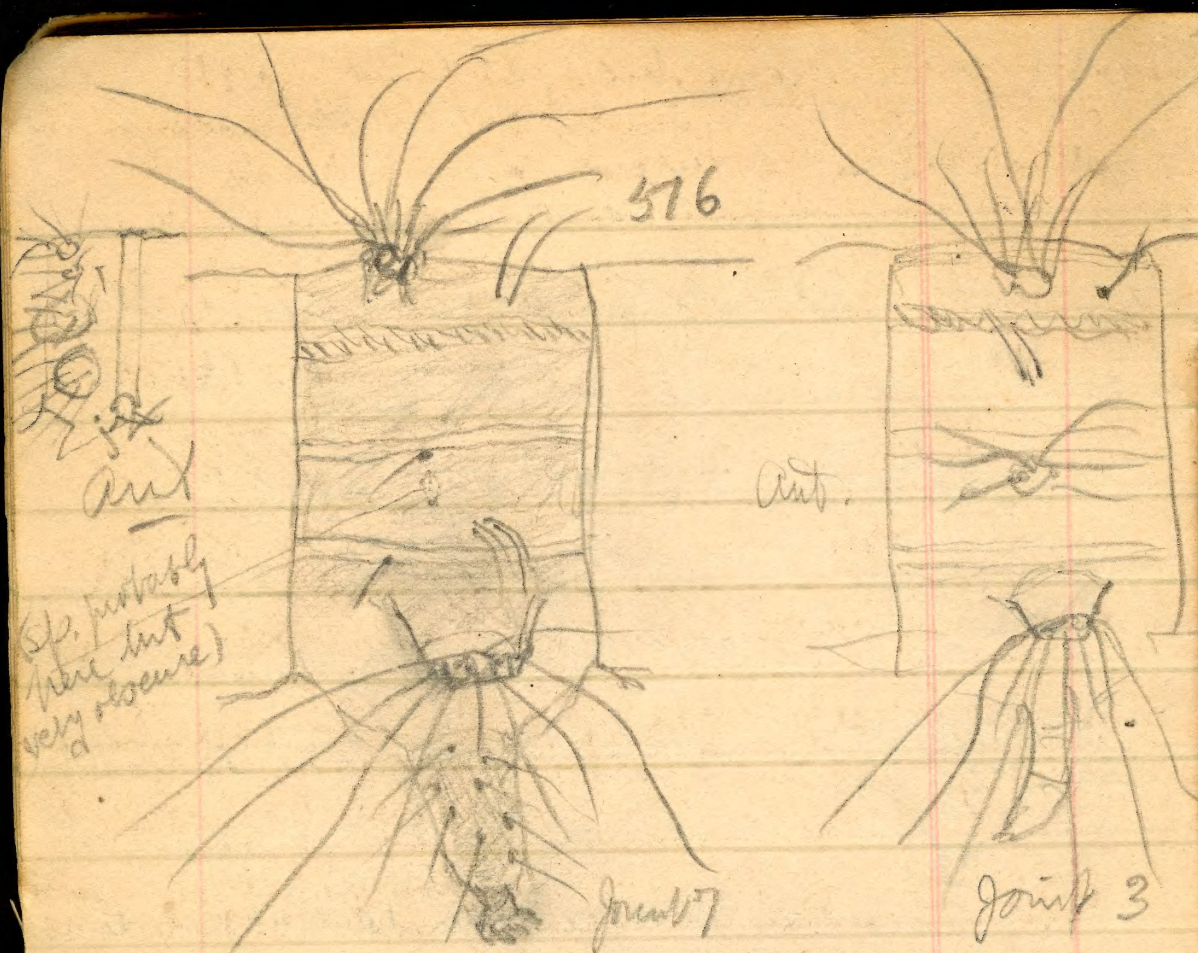
hooked crotchets in
a half circle on the
inside. Larva marked
like an exposed feeder
with a *Dactynotus* egg on it
cocoon from Dr. Chapman

June 3 1897 (*Heterogynis penella*)
found ^{and found} ~~larvae~~ ^{larvae} in ♀ pupa
juncell (may have been there all the time)



Body fine,
dusky spin-
ulose, all dark
yellowish. Tubercles
white, setae
long simple
dense, not
glandular.

Hd trilobed c-sh. c-sh. feet black, no marks. Hd. joint, retractile
tubercles black but smooth and whitish areas. Setae ground
whitish, head, lat. & s-v lines, d. rarely on propleta below
peal i, lat. before ii and forming ring around iii. The
s-v contains pale spots for vi but neither tubercle nor seta
and diffusing almost reaches pale vii. iv+v are in white.
Shed June 21 blackest horn, a diffuse greenish, d., distinct s-s
and tubercle white. Setae pale spinulose, vi present with 2 hairs.
Some tubercle like penella. It without seta add. below i, below ii, below
iii, below iii - behind v - (above ii). Scattered & thick; balls up. Hd
retractile .4 ± c-sh # 6-banded.



(Sp. probably here but very obscure)

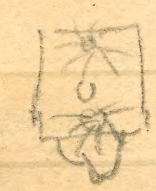
Tolyte velleda stage I from m.
 L.H. Jontel, March 20 1895
 (Largest hairs & tube thickness of body
 VII & VIII represented on 4 cs by short
 setae Red blackish above, paler
 below with ^{geminate dorsal} sd, lat & s-s, whitish lines
 the s-s broadest. the sd yellowish tinted
 Hair long white, warts blackish, feet
 black. Wart sd on 2 large. Hd blackish
 not shining, line above a white. W. hd 6 m. 57
 Spin a little web on a bud on which it
 sits and returns after feeding. Later the

orange sd band become broad, the lateral setae narrow
 but distinct, geminate d. joint. 3-4 a little enlarged but
 no structure, the sd tubercle distinct, black
 Molt Mar 31 Head dark gray, rounded, not shining; w. 8 mm.
 ad, sd, lat. superficial, s-s. whitish lines, the sd
 stained with a large diffuse orange patch below i; i
 2 vi large with very long pale hair, iv visible ($\frac{1}{2}$ inch off)
 other list among the sparse short pale secondary hairs
 spiracle evident, a little lower than represented in sketch
 and close to iv. S-d went on 2 large pale. Row: black
 minute on 2; iv black whole length with pale ring before
 hairs. 12-13 blackish the ad & line obsolete at the
 extremities. The additional line (called lat.) corresponds to one
 between the sd and "lat" of stage I. in 3, 4 & 12 larger
 than elsewhere. Feet pale. (aldred turning on to lat. line)



Mar 31 April 1 i & large blackish gray
 with very long pale hairs, stage 2 & 4
 also large esp on 2 the other list
 among the short pale sd hair which
 are moderate abundant, 4 & 12 enlarged
 dorsally, i on 12 more approximate than
 elsewhere but by no means united
 the dark gray dorsal white hairy w.
 Body dark gray ad, sd, lat, superficial, antstg lines and a series
 of tubercles along warts vi pale yellow, sd line orange. Csh c
 anal pl. gray, the line becomes narrow & pale on 12-13.
 marked a little with yellowish streaks. Post iv becomes distinct,
 marked about 9 or 10 denticles on 12 and on 12 the vi is very large & placed
 posteriorly, there being no corresponding unit in 3; can't distinguish 12-13 well
 warts pale; leg plates quite large, dark gray. Larva flattened
 Died Apr 25

Tolyte velleda (Dr P.)
 ① sd 2-13 approx on 12
 ② lat 2-4
 ③ s-v 2-11, 13

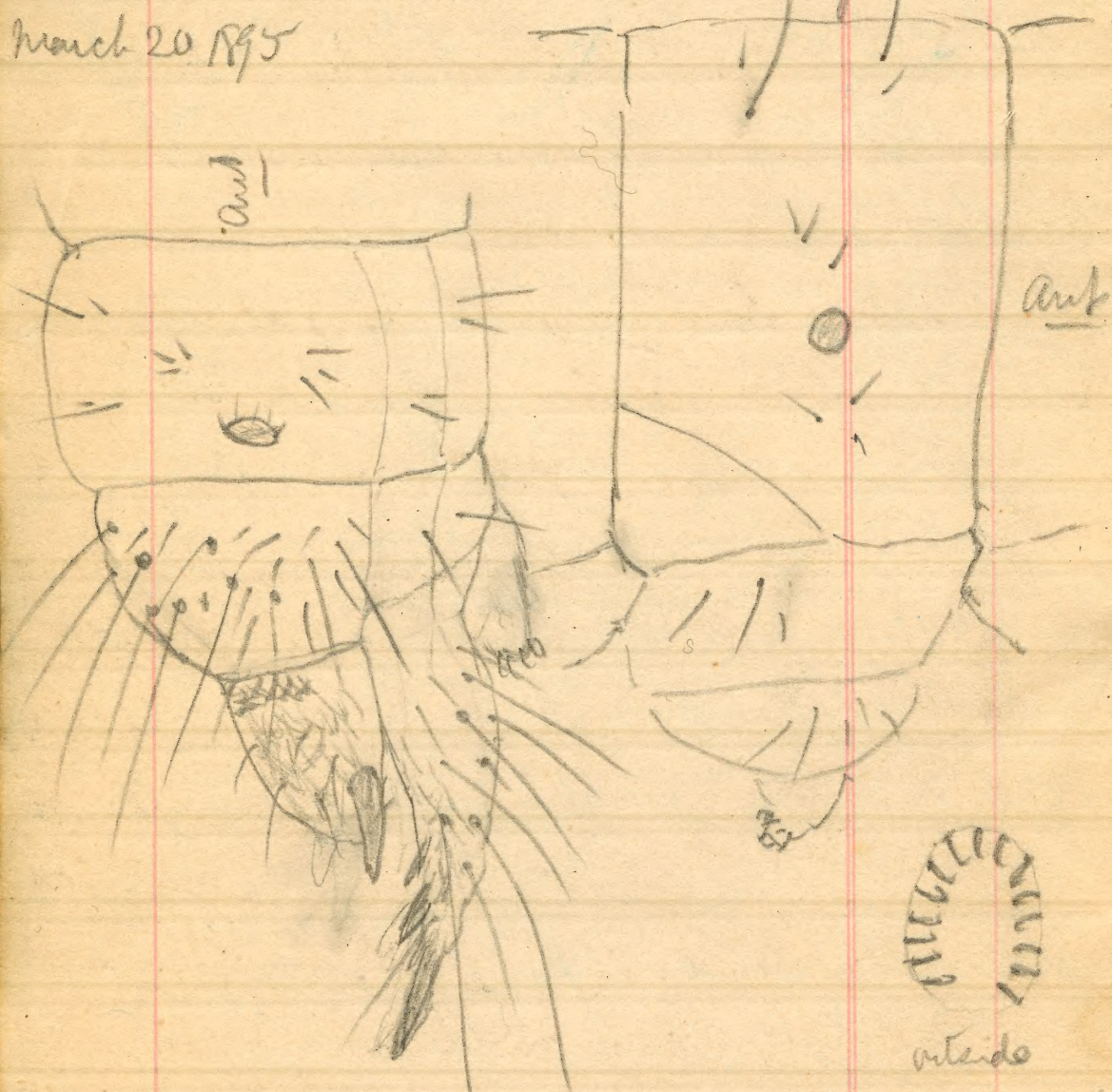


On 2-4 there is a small lat one
 On 12 the two ① are contiguous on a
 slight prominence. On 2 ① on c-sh
 ① lat ③ s-v. trace of 2 nd on c-sh
 Little one same s-v about on 12
Antoce punctistriga (Dr P.)
 very small but appear same i.e. ① sd 2-13 approx on 12
 ② lat 2-4 ③ s-v 2-11

See *Alucita kellicottii* Fish
C. ent XII 105, XIII 141.

517

T-moth larva bores in golden rod stems, found
in winter at base. From Mr. L. H. Joynt
March 20 1895

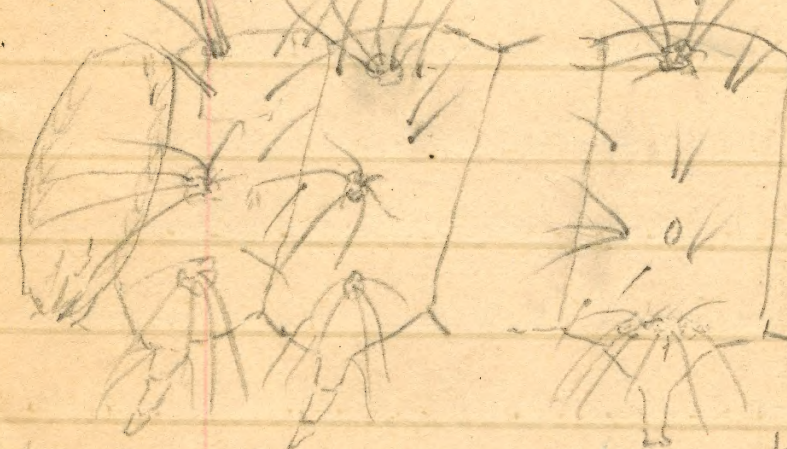


Larva white to orange testaceous partly
under 2. 2 diffuse concolorous, no defined
shield. Setae brown, joint 13 brownish
from the cornification & hairs. No marks

578

Apr 29 1895

Eggs of *Clisiocampa pluvialis* (intergrade ad *fragilis*)
from S. V. Piper, Pullman, Washington
Hatched April 9, 1895 Entirely black with long
pale hairs. Hair rather numerous, from
small warts, finely tubuled, under $\frac{1}{2}$ inch
then a sd luteous patch on post edge of
(see later) each seg. i large, ii small, single hair lat. and
considerable s-v. Hd not shiny with pale hair w. 4 branches



ate wild cherry
& refused willow
As stage adv. the
dist. orange yellow 5-10

patches sd at post edge of segs spread and the s-v 2+
Multi April 20 appearance same but not shiny and
more hairy. Later sd orange become Δ and
lateral L-S-S pale lines appear, all marks
obsolete at extremities. Patch wide Δ behind,
absent in front of it. Hair on middle sometimes
joins the lat band post. Hair faint reddish
appears all same color. Bands clearly lateral
and s-v ($\frac{1}{2}$ inch) orange colored like patches also at
ends, i large black, iv and one before spiracle
conspicuous. Hair rather scant. No other marks

unclearly placed dots of some faint rounded look
 Sub's fine heads from left. which is some time
 faint. Dots from 9-12 line like leg. Dots
 from 1-12 line small. 5-12 line pale band.



Stage II

(Larva lived a long time
 but died off on 1. one without
 molting)

519

Larvae from Mr F. D. A. Cockrell, Drifting Spring
 Organ Mts, New Mexico.

(like blown example 9.8) 40 large round shiny
 black. w. mm. Red, Arctian like, except that
 only 1 ed row on 2 & 3; warts very large, but
 with only few long slender black hairs; ② en-
 larged on lower side and bearing a dense
 tuft of short fine hairs hardly longer than the
 height of wart on 5-12. Body pale yellow, the
 warts on 2, all but stigmatal on 3 black
 joints 5, 6, 9, 11 and 13 black, the warts
 3 aty, all on 4, 7, 8, 10 and 12 range. The
 yellow segments have some irregular
 black marks. Leg plates black. There is
 on ② black on black seg, brown on yellow
 ones

519 B

Wing 5.79. Hd 3.7 ± brown-black shining.
Body black. becoming translucent brownish
in incisures and s.v. s-hair short.
Mouth & wing black, s-hair long, brown.
Feet: leg. plate pale. sd wants on 2 & 3
very closely appressed but seem separate

520

Heavy brown mottled with 519. Light
brown covers all over with dotted black
reticulations which segregate into broad
diffuse d & lat. shade bands sparse
narrow black turned. Hd. corner brown
pale, dotted with brown. Black on the vertex.
Labrum & base of antenna pale, jaws dark
Setae very short & fine, pale, unsculpted, vi long
Feet pale, tips of tibiae & leg plates pale cor
near brown. Dorsal midline of abd. d. lat
& s-v narrow line. Venter whitish (abdom. 5-8)

Calcs 5.78 1.19 1.8 2.72 rat 6.6
{ .52 85 1.3 2.0 3.0

521

Oxyia antiqua from England (Mr Edmund)
Hatched last May! Egg laid marked as *India* ^{India} ~~India~~
Stage I Like *O. India*, sd want on 2 & 3 ^(sheds .8) ~~Stage~~
Stage II (May 8) Like *India*. 5-8 very black
Stage III (May 12) Bright, 2 black 2 white tufts
Pencil short square, no lateral ones. Ap-
pearance bright, with reddish, tufts black
& yellow brown and white various. all white
^{afford have traces of side tufts}
Stage IV (May 17) ♀ white side tuft vs, black
v 6 distinct, hair very feathery but scarcely
plumed. Pencil short but longer than
before, well plumed. Tufts 2 black, 2 white,
with distinct red. Scarcely any marks on body
except sd on 12 pinkish. (Like our *antiqua*)
in also
Another 4 white tufts - all alike (= mature ♂?)
1 ♀ has 2 black, 2 white with some black hair in 3d tuft
II a summer like ♂ but look smaller; a very
large with 4 white tufts but small
Stage V (Hatched 1.6) new shed 2.2, 4 white tufts
2 more sheds 1.8, 1.857 new shed 2.8 ± 25 more shed 4
Everyone now out $\frac{2}{2}$ = A molt May 30 shed 1.8 new shed
2.5 ± All spun June 3 Imago June 6

522

Heurilenca californica from P. H. French.
Hatched May 10. All black, setae pale,
hd shiny, w. 8 mm.



Single d. 12 & 13, none on anal plate.
Big rough made from (larva not yet fat)

no secondary hairs and no primary.

Molt May 25

signs
Hd black

Body uniform
neat black

dark brown

Spine i on
pale shiny

4-12 range, fading to white ultimately

the rest black. Setae shorter than before

and more shiny except perhaps ii a 2nd hair

very few and white. Spines only with when

just shed but grow out & become "fluffy" then.



The pale brown spines are not, or faintly black
tipped. i 12 fuscate, brown, sometimes black
at base. i 13 shorter-fuscate, black.

Molt June 1 Hd shiny black with a reddish
undertint Body ^{black} faintly dotted with yellow
with a more or less distinct, broken, narrow

yellow sd & s-s line. Spine i 4-12 ochraceous
brown, the rest black; setae stiff & shiny

pale, the tips of some of the longer branches
whitish. Shaft of i short with

numerous branches tipped by setae
but on 2 & 3 shaft very long. the

branches separated. ii a smooth
elliptical scar with a seta. a few short

scattered 2nd hairs pale. Spine ii pale. Hd 2nd
Molt June 6 Hd higher than wide, subconical

marked, shiny blackish red or nearly black
a few hairs. Body black, thickly covered with

round yellow dots each with a black center
which bears a very fine 2nd hair. These dots are

larger in a row sd (ii) and s-v (iv+V) indicating
sd and s-v yellow lines. Spine above as
below in structure, the setae rather shorter
and the branches of i (quills) well developed.
On 2-3 and ② or 2-4 large than others. On 4-12
short other than the quills black tipped, the
central one with a seta but none of the others.



Simply black pointed. Other spines black
the ends of the branches white, all setiferous
the stem stiff and pointed, dark but pale at
base. Secondary hairs only visible s-r with a
line. ii a distinct seta, its base forming a
lateral yellow spot like the 2d hair.

① with ^{10±} quills, the rest with
longer & shorter setiferous
branches.

Molt June 14. ^{later hairs black} Hd shiny dark mahogany red. Body
black thickly covered with yellow dots as before but
much thicker confluent along s-r fold (iv+v) in a
band, each dot black centered with fine white
2d seta, legs black then numerous white 2d
setae without yellow spots. Clasper reddish, spines
white, spin ① short on 4-12 Rosette like with
50± other brown black tipped quills; ① on 3 and
② on 3-12 bear a few quills at base but the shaft
is long & black & most of the branches are black
with white tips & stiff bristly setae. Other spines
without quills. ii still visible as a larger dot
with the dots tending to form a 2d line
along it. Anal plate black + 2d setae, no spines

One shed June 27 (most sick) (sh hd 3.2) new hd. 4.5±

Hd anal plate & feet dark mahogany red. Body
black as before but the secondary hair setae & their
yellow spots a little more numerous confluent
around spiracle besides the indicated s-r band

Chondrocypris "nuttallii" from Mr. C. V. Pipes
Pullman Wash, on *Symphoricarpos racemosa*

5 came alive, recd. May 16, 1895 sh. hds. w. hd.

1.85, 1.95, 2.1, 1.95, 1.8, 1.9, 2.0 spines of mature form
stage hd 2.6± (IV?) Black throughout, without

wrinkles; head shiny. 2d hair fine, rather
erectly, pale whitish as are the setae
of the long sharp spines; quill of short
spines entirely black, shafts shiny.

Spines arranged as in *epilantaria*. Type 1

4-12 all black, short rosette like; type 2 &

3 scarcely distinguishable, except perhaps type

2 on joint 3, but this may be due to the fact

that all the quills are black like the branches

of the spines and hence look quite alike

Really no type 2 except on j. 3 for many all the

branches on ii bear pale setae. (see above.)

Molt May 28 (sh hd 2.8) new hd 3.8± All black,

no brown quills or only a trace on ①

4. 2d hair abundant, white as are

the setae on long spines, but the shafts & branches black. Skin black, no lines, but the larva died just after shedding and they may not have appeared yet. Spinelets white. When much longer than before as well as thicker (see brown example)

528

~~Wesley Poyche~~
~~Antenna~~
~~105~~

Lophocoryphus vinctus (many eggs for m.)
J.G.O. Mueller, Berkeley, California & D. Behr
Hatching May 26, 1895. Eggs covered with hair in oval round thick coats just like pulosa
Hd shiny black. 4.5 ± Body very dark, no marks seen at first, warts large very close set as body shrunken. Stg. on 2, ii on 3-8 and 12 especially large. Black. Hair many from each wart, very long, pale and dark. Later 3-4, 9-11 whitish dorsally

molt May 31 Hd shiny black m. m. Body 1 wart dark, no marks visible at first except a white dorsal patch 3-4 and 9. Prothoracic tubercles

large light orange. Hair long black some plumbed but small tufts of few hairs on 5 and 6 on 6 black. Senter hairs & those 5-8 and from 10th pale. Later a pale yellowish ed and 5-8 (v) band and pale rings

the ^{broken} lateral warts (iii). 8th and joint the pale yellowish areas on 3-4, 9; ii on 9 reddish

at base, other with black - skin gray-black
feet rather pale but leg-plate black
Molt June 3 - ^(2nd/62) shiny black sp. 12 + body gray, the
sid & 1-5 pale yellowish brown. ting with ch
patches as before. Feet large and pale yellow
except 4 & 11 on 5-8, 11 on 10 white and black
few short plumed hair 5-11 and 2 on 12
Brake tufts, anterior to 5 and 6-8 white
Red, tubercles orange red Hair black & white
Others have tufts 5-6 black, 7-8 white
Taken the pale warts are orange, ^{v orange black v black} VC VI largely
black; yellow marks extensive forming a
broken lateral line as well as distinct 3rd
and 5-V. Ch dark, tip of abd feet salmon

Walt June 9 Hd 1.84 as before Rimsh tufts and
ferrules more distinct but still small;
ferrules short, very yellow but variable. Bands
may be all confluent the yellow lining shows
the dorsal in the incisures

One June 14 hd 2 ± ♂ mature; black from
dark gray tints white along sides darker

on crest. Pencils bluish, black. Vents
bright orange red, yellow broken s.d. lat,
and a-s. lines, the former to in train. Shows
the lat. fold, s-s almost continuous. C-th
red. Other hair black & white, thin. Ret
lateral like vents. As dried compared
with living 342 exactly the same, except
yellow more extensive (than the head of 342)
and red of vents more of an orange tint,
not so crimson, but not very striking.
The larvae seem smaller than 342.

not copied

[525-B Hair .6 mm Stage hd 7 - Hair 1.6 mm Stage hd 1.0]
 525-A Hair 2 mm Stage hd 7 - Hair 3 mm Stage hd 1.0
 From alcohol 525 of 1895 to day hatched Kind 1 Stage 525 A
 (no 525 B) etc etc.

524

Eupatorium purpureum (Michx. & Holmes)

Therac on rough-clump-whorled leaves, Van Cortlandt Park June 7 1895. Without a very conspicuous large oval light yellow spot below skin s.d. on 9. g.nov.

Leaf green with a white dorsal s.d. line broken in incisures.

2 line slightly narrow, s.d. narrow but curved on each seg. & discolor with vest segment.

Hairs stiff and very coarse, white, caudal hair 2 pairs longest, i-ii separate also i and v? a single 2' seta behind spiracle.

Hd pale green, ocelli black, mouth brown; w/ 1 row. Stage before same but marks less distinct, same whitish; vent whitish giving a s.d. white line along i-ii the line faint. Hd 7+ Ocelli black.

Pupa June 12 fastened up by cremaster but flew to leaf remarkably like larva so that I first thought it had shed. Green with same markings and gland showing. Cases to middle of joint, the ant. & hypocases to middle of joint. Setae resembling larva but diffuse, smaller and with much shorter than in larva and distinct for a single white.

526

Therac? on Irish honeysuckle (*Diervilla trifida*) Jefferson Highlands N.H. June 14 1895. Flattened, hd retracted, incisures deeply infolded, a prominent s-v ridge; Ocelli whitish; hd blackish, mouth brown.

On *Eupatorium purpureum* but on under side of leaves, bent over at edge & slightly webbed. dorsal line [hd. 7] hair .7 d. & curved s.d. seg. s.d. & base of outstg line [hd. 5] i-v cutting looks like a white line.

Spiracles with pair Hd 1.0 hair 1.5 mm above dorsum. white s.d. Hair white. Late d. hair (i.e. ii) blackish tinged.

(yellowish) and a faint oblique yellowish granular pilose

529 = 525 B = 529

gland field lat 9010. Hd 5 faintly brown, eye black. Setae whitish green, hair fine & short, obscure marks same. Seta behind spiracle a rudimentary point, that behind i-v only 1 small hair, 6 ocelli. Hair slightly hunched, evidently stiff and not extremely long .6 mm above dorsum.

Also on *Eupatorium perfoliatum* Washington Heights May 17 '96 Hd 3.5-7 mm above dorsum. Lat. hair a distinct s.d. line. Setae behind spiracle; otherwise same, as before, s.d. line behind i a single one for ii. Pale yellowish with slight green tinge. Hair a white whitish, no evident markings.

1896. (Same as 580) ♂

On Eupatorium purpureum but
on under side of leaves, bent
over at edge & slightly webbed.

Hd. 7 hair of d. & curved
sd & traces of substy line

Hd. 5 iv-v certainly looks like
a white line



Hd 1.0 hair 1.5 mm above
antrum. white sd

& traces of sd line; trachea above
antrum d. & antrum sd line

Hairs white. Late d. hairs

(1 & 2) blackish tinged

= 525 B = 529

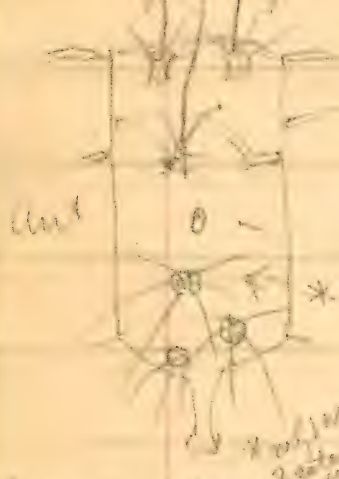
(2)

beta iii single; iv a
by no means cons
v, with or without
and behind it; vi
leg. joints 3 and
and subprimary
near ia and ib and
joint 4, but variable
on joint 4 though p
black

[525-B Hair .6 mm stage hd. 7] - Hair 1.6 mm stage hd 1.0
 125-525-A Alike but Hair 2 mm stage hd. 7 - Hair 3 mm stage hd 1.0
 From alcohol 525 of 1895 is long haired kind!
 525

Eupatorium nudiflorum (Michx. & Rollins)

Fls. on single-clump-whorled-leaves, Van Cortlandt
Park. June 7 1895. ♂ with a very conspicuous large
oval light yellow spot below skin sd on 9. ♀ none



Leaf green with a white dorsal
red line broken in incisions.

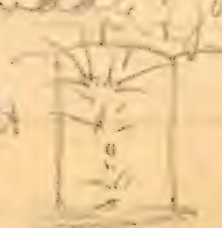
2 line slightly narrow, o-d
narrow but curved in each seg
& discontin with next segment.

Hairs stiff ^{2nd 3rd} and very coarse, white. caudal
hair 2 wants longest. iii separate also ii
and v(?) a single 2nd seta behind spiracle.

Hd pale green, ocelli black, mouth brown; 1st antennal segment same but wings less distinct, some

whitish; ants white giving a red white line
along i-ii other line faint - Hd. 7. Ocelli black

Pupa June 12 Fastened only by cremaster but flew to leaf remarkably like larva so that I first thought it had shed! Green with same markings and a gland showing. Cases to middle of joint 8, the ant. & legs cases to middle 9th. ~~It~~ behaved all



Setae resembling larva and
diffuse, smaller and with
tips much shorter than in larva
and distal for a purple white

behaved if!
but wants more
more 2^d hairs
but yet very

526

Theca? on bush honey-suckle (*Lonicera tufida*)
Jefferson Highlands N.H. June 14 1895. Flattened,
hd, retracted, incisive deeply infolded, a promi-
nent s-r ridge, O_{ant} ~~color~~ whitish; hd blackish, mouth
brown. Body soft velvety leaf green (yellowish)
an obscure transverse curved band on 4 and a
dorsal line darker green; a series of faint oblique
s-d. sep. lines ³⁻¹⁰ ~~line~~ on a v ridge yellowish
spiracles white. round; abd, unites glaucous
with pale pile s-r. Body unites pilose
Hrs. feet clean. Pupa June 20

1220

529
525 *Eupatorium* Plainfield N. J. May 16 1896. (Same
Hd 7 no sd. a sty lines *toothiness* same as 580) ♂
glad field but 9-10. Hd 5 faintly linear, eye black
thrust whitish green, hair fine & short, obscure marks
same, seta behind spiracle a rudimentary point, that
behind IV & V only a small pair, 6 setae blackish 1.0 faint
hair 4-5, slightly barbed, arched, stiff
and not extr. long. .6 mm above dorsal

A. also on Eupatorium perfoliatum Washington Heights
May 17 '96 Hd 3.5-7 long base 2 mm above sepals
^{late fruiting stage} calyx faintly lobed
Sepals 3 no color behind spiracle; otherwise same, as May 19 '96
color behind in single row for III. Pale yellowish white slightly
green tint. Hair & webbing copious, no evident marks.

June 20. I saw a beautiful arched thin web on side of rock
 Imago July 10 *Lycophotia pholias*

527

On lichen covered rocks (a wall) Jefferson Highlands
 N.H., June 17 1895. Gray dotted with pale green
 with thin very long blackish hairs. Head
 bilobed, ^{lower part of d. a. ant. pale} clypeus large, black brown with 2 pale
 green narrow transverse irregular lines; ground
 color seems pale green, thickly dotted with blackish
 brown which obscures it almost entirely except
 these bands, numerous short white hairs.
 1.5 mm Body rather flattened, brown gray
 with many irregularly triangular transverse
 streaks & patches; a geminate rather large
 ant. patch & 2 lateral ones also ant. one
 pale yellow the rest whitish. ⁵⁻¹¹ Ant. patch
 this shape, the others irregular; too numerous
 to define. Legs pale. Setae as in *Wetmorea*, i, ii
 single, long, black, iii of 2 setae, iv shg. post, v
 ant, single; vi of 2 setae; 2 setae on abdominal
 segments leg plate. Tubercles white with black
 centers. Spots probably broken at d. lat. supra stig.
 and 5-5. lines. i, ii close approx. on 12.

528 - 8 = 62

BB 8

On fire chimney ^{Jeff. H.} ^{usual. H. d.}
 Acrony. Pale green with white with stiff
 hair & coming smaller as
 the web. ^{May 17} H. d. 8 dots pointed white
 a green roof, darker from
 at sun. i, ii, cream white patches on i-ii
 small on 3 & 4 large on 5-13
 round d. Gaster connected by
 where a broad band i, ii a narrow
 round on ii with a dot
 colate behind. The ^{between ii also large. 13 a}
 Lame patch no green center. West.
 Setae iii has only 2 setae but the oth.
 have 6-12 the 2-8 ones round.
 the 2 Hair pale, and a few black.
 black dorsal pointed, spinulated.
 May 18 H. d. 4 green mottled with
 then on whitish ground. i, ii each 2 setae
 as apex; smooth. Roof as
 before with several hairs, at spots
 eye black large, pale yellowish on 5 & 12 smaller except
 with a narrow red line between i.
 for com. 2 setae green. Hair black & white
 of a greenish becoming red between i & ii resp.
 bearing yellow the patches produce black &
 red. from a broadly continuous d. band
 running inside ii but ii yellow
 May 24 (like 62?) Green
 yellow band instead of 12 but
 all pale iv small in white
 distinct, elongate very thickly. Four setae on leg plate

Feb 13 1897

(margin)
 very flat
 yellow
 at base
 25 mm
 transparent
 curved
 red, colorless
 except
 a little
 each
 besides
 with setae
 line. vi
 on leg plate

On fire cherry 8/7

BB 8

II Pale green with whitish with stiff
hair & creamy areoles on an
usual. H. 8. 8/7

III Aug 17 H. 8. 8/7 lobes pointed whitish
a green. Body green. Darker green
on 1, creamy white patches on i-ii
small on 3 & 4. large on 5-13
ground d. patches connected by
a broad band on i & a narrow
band on ii. with a dot
behind the eye. 12-13 band
between ii & iii large. 13 a \square
patch no green center. West
iii has only 2-3 hairs but the others
have 6-12 the 5-8 ones more.
Hair pale, and a few black.
normal pointed, apiculated.

IV Aug 18 H. 4. 8/7 Green mottled with brown
on bluish ground. 1-4 each lobe
at apex, much whitish. Body as
before with several hairs, d spots
large, pale yellowish, on 5 & 12 marked
with a narrow red line between i &
2 all green. Hair black & white
both all patches all centered, the 2 corners of
bands becoming red between i & ii resp.
yellow. The patches produce much a
red, form a broadly continuous d. band
missing inside ii but ii yellow
Aug 24 (like 62?) Green
yellow band marked to 12 but

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shinily dark red centered on each
side, placed on each flap. Hd
yellowish, blackish brown red
above a face except green & eyes
black. How few from cones
want it. Each 2.50

W. H. A. 1909
H. W. A. 1909
B. W. A. 1909
H. W. A. 1909
= 8

from a beautiful arched thin web on side of rock
June 20. Imago July 10 Lycorophya pholus

527

(On lichen covered rocks (a wall) Jefferson Highlands
N.H., June 17 1895. Gray dotted with pale green
with thin very long blackish hairs. Head
bilobed, ^{mouth part of 2 ant. pale} chypers large, rock brown with 2 pale
green narrow transverse irregular lines; ground
color seems pale green, thickly dotted with black
hairs which obscure it almost entirely except
these bands, numerous short white hairs.
1.5 mm Body rather flattened, brown gray
with many irregularly triangular transverse
streaked patches; a femoral rather large
ant patch & 2 lateral ones also ant. one
pale yellow the rest whitish. ⁵⁻¹¹ Ant patch
the shape the others irregular; too numerous
to define. Legs pale. Setae as in Wetmore, i, ii
single, long, black, iii of 2 setae, iv shg. post, v
ant, single; vi of 2 setae; 2 setae on obscure
coxae leg plate. Tubercles white with black
centers, spots probably broken ad d. lat. sub stg
and S-S lines. All closely approximate on 12.

528 = 8 = 62

Feb 13
1897

Acronycta on wild cherry (P. pennsylvanica)
Jeff. N.H., June 19 1895. Egg. Round, very flat
the well marked vertical groove passing obscure
at summit & less numerous. Transverse line
scarcely even indicated. A slight rim at base
where applied to leaf. 1 mm height about .25 mm
colorless, a little whitish, not entirely transparent
Larva translucent white no marks
Setae single, normal, i, ii dark
the rest pale and finer eye
black mouth brown w. 3 mm 40 higher
than wide, mouth pointed. Hairs long, curved
Molt June 20 1st stage with pointed lobes, colorless
eye black mouth brown w. 5 Body colorless except
for contents of al canal by transparency a little
opaque whitish. Vents large, crescentic, each
bearing a crown of shorter pale setae besides
the long central dark one. 5 & 6 vents with setae
all pale or small on white buccal line vi
distinct, elongate cylindrical. Few setae on leg plate

Later pale green along ii a broken white sd band
 Molt June 23 Hd 1.0 all pale green, a pale broken yellowish sd
 line. hairs concolorous, hairs more numerous than long ones more
 than one. Hair long, pale except some of the long dorsal ones.
 Molt June 27 Hd whitish, faint brown mottled on upper part of face
 W. 1.8± Body green a yellow sd line along between i-ii,
 divergent on dorsum. Hair few, black whitish vent. concolorous
 12□ hd bilobed. a few fine 2d hairs laterally (½ inch shy)
 Later space d. becomes thickened with brown faintly 2-12
 the brown dotted mottling on head are distinct at apex of
 lobes in front. (Suggest *radcliffei* or *superans*). Later yellow
 runs also into 13. Another same, a broad yellow band
 enlarged by it on each joint 2-13 brown centered, narrow on
 3-4. indistinctly elsewhere. Hd 1.8± yellowish, brown spotted
 Molt July 1 Hd 2.5± green mottled with red brown on a whitish
 ground on apex of face, both lobes. apex. Body green, a
 red d line on top ridge white d space, edged with yellow (i)
 reaching 13 enlarged in blackish a tiny 12. Hair thin
 dark d. thicker from 2d and white s-v. Later ground green
 yellowish 2 broad brownish sd. dentate on 3-5, broken
 & yellow in masses, obsolete 2 post. reaching 13, enlarged 12
 Molt July 7 Hd 3.7± [=BB8] Hd bilobed, shining black, slight
 chagreened, the coarse setae pale. Body dull black the
 venter pale greenish with central brown & radiating
 brown, the brown setae like the rather num-
 erous 2d ones. a dorsal bright red stripe narrowly
 edged with velvet black irregular broken 3-11.
 12 □ velvet black. i black, clasper & feet pale, and
 feet, except leg plate. Later venter brown except the
 line bordering d red line which are black

Apatela lobeline (=8)

529

Fourth except from grass; another from ~~the same~~
 Hd testaceous green, eye black smooth brown
 Body green, broad sd (i-ii) and 2-5 (iv-v) white
 line, narrow d. lateral (above iii) the latter
 waved. Venter also whitish; hair whitish stiff

W. d. sd line on 2 & 3. d. sd line on 4 & 5.
 Acronycta on *Brunus pennsylvanica* 233A
 Hd with pointed lobes, green with a few white
 hairs W. 1.1± Body lighter than male, green
 a broad yellow band to ii, divergent into two
 bands on 2-4. Venter conical, concolorous, a
 single stiff seta and crown of green
 hairs. iv small, a few fine acronycta
 hairs d-v in region of v; vi present, distinct.
 Dorsal hair blackish s-v all pale. Leg plate
 52 concolorous green, with few pale hairs. (Hd 1.1)
 Molt June 23 Hd 2.3± green mottled with brown on face
 on each side a brown spine. 12 □ enlarged d. a little
 what same skin spines. 2d hairs more numerous
 one large pale mark same as in 1st. Later a dorsal red-
 brown band 3-12 edged with yellow. [Died]

Po. probably = 442 *superans* or *radcliffei*?

W. no. = 233 (see 528) *lobeline*!

Ant. Ant 11591 = 449 B

Acronycta on *Brunus pennsylvanica* 233A

Hd with pointed lobes, green with a few white hairs w. 1.1 ± Bod. higher than wide, green a good yellow band to ii, divergent into two bands on 2-4. Vents conical, concolorous, a single stiff seta and crown of finer hairs. iv small, a few fine secundary hairs 2-v in region of v; vi present, distinct. Dorsal hair blackish. 3-v all pale. Leg plate concolorous green, with few pale hairs. (H. 1.1)

Wetmore 23 Hd 2.3 ± green darker with brown on face of each side & brown tips. 12 □ enlarged d. a little white same skin spinous. 2d legs more numerous & longer. pale hairs some white. Late a dorsal red-brown band 3-12 edged with yellow. [Bird]

Probably = 442 unfurlous or radcliffei?

more = 233 (see 428) lobeliae!

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Jefferson Highlands

N H

Later pale green, along it a broken white s.d. band
 molt June 23 Hd 1.0 all pale green, a pale broken yellowish s.d.
 line. Hair, concolorous, hair more numerous, the long ones more
 than one. Hair long, pale except some of the long dorsal ones.
 molt June 27 Hd whitish, faint brown mottled on upper part of face
 W. 1.8 \pm Body green a yellow s.d. line along between i-ii,
 diverging on dors. Hair fine, black, whitish vent. concolorous
 12 \square , but bilobed. a few fine 2d hairs laterally (1/2 inch high).
 Later space d. becomes thickened with hair faintly 2-12
 the brown dotted mottling on head are distinct at apex of
 lobes in front. (Suggests *adipifera* or *superans*). Later yellow
 runs along with 13. *Chrysa* same, a broad yellow band
 enlarged by it on each joint 2-13 brown centered, broad on
 3-5. Indistinctly elongate. Hd 1.8 \pm yellowish, brown spotted.
 Molt July 1 Hd 2.5 \pm green mottled with red brown on whitish
 ground over apex of face, with brown, open. Body green, on
 red d. line on d. ridge like d. space, edged with yellow (1)
 reaching 13, enlarged in blackish a tiny 12. Hair thin
 dark d., thicker from 2d and white 3v. Later green, red
 yellowish d. band brownish red, darker on 3-5, broken
 yellow in in spaces, black 2 joint, reaching 13, enlarged 12.
 Molt July 7 Hd 3.7 \pm [=BB8] Hd bilobed, shining black, slight
 shagreened, the coarse setae pale. Body dull black, the
 warts pale greenish with central hair & radiating
 crown, the brownish setae like the rather nu-
 merous 2d ones. A dorsal light red stripe narrowly
 edged with velvet black, irregularly broken. 3-11.
 12 \square velvet black. 1 black, clasper 1 feet pale, and
 feet, except by plates. Later warts brown except the
 two bearing d. red line which are black.

Apatela lobeliae (=8)

529

Mouth cleft from grass; another from ~~the~~
 Hd testaceous green, eye black mouth brown
 Body green, head s.d. (i-ii) and 2s (iv+v) white
 line, narrow d. & lateral (above iii) the latter
 wavy. Warts also whitish; hair whitish stiff
 moderately long and abundant
 Feet clean, darker brown no 2d hairs
 Skin a little granular
 under 1/2 inch small wart
 behind spiracle & another in line
 with iv+v ^(technically) Pupa June 21 no straps

529A On clover i + ii some 2d hair with enlarged
 ends. Green, brown whitish s.d. and broken
 ones along iii and iv+v (in younger stage)
 Pupa June 21 (not young stage but mature) setiform
 wart present. Fastened by cremaster only.
 Ant. cut 11991 = 449 B

Much like Hem vau which
are being raised at same time.
The male seems to differ from vau
in its color. Same marked.

1896

Calc 42.70 T. 16 1.9 3.2 wt. 6
do not wash up like this; open for water leaves
melt before Jan 28

Hd. 7
rest
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*Massachusetts Institute of Technology,
Boston, May 26, 1896.*

1.9	⁴⁴ .45	⁷⁷ .75	¹²⁸ 1.2	^{1.8} 1.8	^{3.0} 2.4	(60 } <u>apicalis</u> (ram)
1.9	.4	—	1.3		3.2	
1.7	.35	.7	1.4		2.6	
1.8	.4	.7	1.1	2.	3.2	(60 } <u>strigosa</u>
	.42	.70	1.16	1.92	3.2	
[.825	.4	.716	1.25	1.9	2.83	Average]

in the evening.

Tickets will be one dollar each, and should be procured at the entrance to the Clubhouse.

Replies should be received by the Secretary not later than June 3. Attention is called to the fact that former students, not graduates, may be invited to these receptions. The Secretary will be glad to receive the addresses of any to whom it is desired that invitations be sent.

H. W. TYLER, Secretary.

*Massachusetts Institute of Technology,
Boston, May 26, 1896.*

another of 35

another of 25 one
sterile and pale
green, white toward base

another of 36

530

Much later than ran which
are being raised at same time
The ran larva is darker than ran
H. blackish brown, but of a dark
purplish color. Same markings.

About 50 eggs of Ichthyura together on back of Populus
tremuloides leaf Jefferson Highlands, N.H. June 19 1895.

Egg. Somewhat conical, not hemispherical though
high enough base flat, not shiny of a purplish
color the heads shiny black; shell not colorless but

milky white, ground glass like. Reticulation indistinct
neat, but narrow, almost linear and rather
small, hexagonal but with rounded angles, a

small better marked area at vertex .8 diam. .5 high
Fresh eggs bright light emerald green (infertile of May 18 1896)

Hatched June 20 Hd rather cordate, mouth pointed
shiny black; Body grayish white, the slight elevation

on 12 more brown, and all of sides thus marked
with same color. Cth black; anal plate brown
the feet black. The vitta on the side is very obscure

and is most pronounced in a narrow sd line.
Setae single, long, dark at base, normal

Thoracic ones seem also normal, like I. ran

They are. Went out 2 setae off Cth
4 on main part. On abd. vi is just indicated

by a tubercle but I find no seta on it.
OK Body covered with cuticular points.

1896

Calc. 4 .7 1.2 2.0 3.3 not 6

— .7 1.1 2.05 3.2

Calc. 42 .70 1.16 1.9 3.2 not 6

Do not rush off like ran, began to write leaves

Molt before June 28.

Hd slightly bilobed

shiny black.

Body pale yellow d.

3-12 with 3 faint purplish lines. Cth canal
plate annular. a central purple spot 5 & 12 the
latter a little enlarged. A sd purple brown
mottled line & faint mottling on the sides.
Feet & leg plate dusky. Hairs pale, some long.

Later the pale parts predominate so that body
seems annular with pale, the vitta yellow.

Molt July 1 (sh hd 1.1) New hd 2.1 Flattened. Hd shiny black

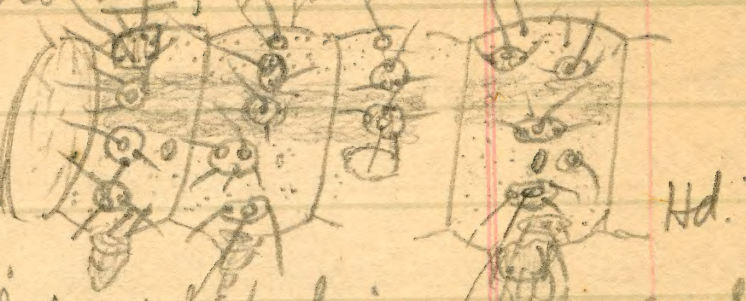
with many soft white hairs, bilobed, median
suture deep, a small, triangular, annular below
the bulging lobes, flat. Body appears as before. A
whitish ground traversed faintly by triple dorsal
triple, closer lateral and double stig, broken various
purplish brown bands, the d. fainter than others.
Central d. spot behind i a 5 & 12 brown; no brown
Warts all yellow, 2^d & 1st hair soft, pale, not long.

Feet pale. Line obsolete on 13. Cth dusky

Molt July 12 (sh hd 2.05 or 6) New hd. 3.2 ± Hd black the broad high

Δ pale, almost purplish looking, seems sunken. Body as
before the d. patches on 5 & 12 much fainter. Warts
conspicuously yellow. Hairs fine, obscure. No elevation 5,
sd. 3 pairs fused lateral & stig. Lines equally distinct all
of a pale brown, mottled pulverulent on a dirty whitish
ground broader than the 5 spaces between. The spaces form
a narrow pale line on each side. 5-v region narrow even 8.

Warts mottled. Spots on 5 & 12 do not show though indi-
cated. A cresting very short, thick fine & hair rather pale
(on hd 2.4 2-headed) A single example had bright
colours. Lobes of head black, Δ pale, not brown as
in ran. Body whitish or yellowish white.



the lines red, "lake red", the 3 dorsal fainter
than the lateral ones. Tubercles yellow the
lateral ones giving appearance of yellow
line alternating with the lateral red ones.
Larva is simply paler than the others.
Later inst. hd all black, lines dark dull purple
head mottled speckled redicing the ground
color to narrow cinchely pale line. Color all
very uniform, wings yellow but small and
inconspicuous. Sum of the whitish line of ground
line broken into ring spots & streaks, about
six across on each side, nearly continuous. The
body is :: dull purple, dark, with the narrow
pale line & rings, mottled and the small yellow
tubercles. Hair very inconspicuous, fine, short,
about 1 from a crat. 2d very fine like pile.

Evermore imperfect between leaves. Pupae by July 25-

May 6 1896

Ichneumon strigosus

531

4 Acromyza eggs, scattering on 2 leaves of woolly willow
Jefferson Highlands, Mont. June 19 1895. A Hatched, low
convex, outline a little irregular. Vertical
ridges form distinct wavy ridges, a few confluent
so much more divisible toward vertex, all cease
before micropyle which is irregularly reticulate
D. 8, height about .15 mm. Color whitish, subtranslucent.
Another 531A on Mt. Ash June 23. (Egg same anyway)
Hatched into little ground glass white looping
noctuid, no marks, 2 ant feet nearly white
(not kept)

531B Round, flattened. The wavy ridges alternate pretty regularly long & short, the short ones not confluent in pairs as in 531A but end free, mostly alternating with long ones, all wavy all connected at angles by distinct narrow cross lines forming // rounded hexagonal cells, elongate transversely. Micropyle rather irregularly reticulate, its main line being prolongation of the long ribs. $.75 \times .15$ mm. Translucent white, scarcely shining. *Yespiny Noctuid*.

